

**Amendments to the Claims:**

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) Laser system having a repetition rate greater than 50 kHz according to the principle of the regenerative amplifier, comprising at least

- an amplifying laser medium (6),
- a laser resonator having at least one resonator mirror (5) and at least one modulator (3) and
- a pump source, in particular a laser diode source, for pumping the laser medium (6),

~~characterized in that~~ wherein the laser resonator has a pulse stretcher (7, 8a, 8b) as a specially designed component having a structure- and/or material-related dispersive effect, the pulse stretcher (7, 8a, 8b) having a minimum 3<sup>rd</sup> order dispersion with a maximum 2<sup>nd</sup> order dispersion.

2. (Currently Amended) Laser system according to Claim 1, ~~characterized in that~~ wherein the pulse stretcher (7) has a block of highly dispersive material, in particular comprising SF57 glass, SF10 glass or BK7 glass.

3. (Currently Amended) Laser system according to Claim 2, ~~characterized in that~~ wherein multiple reflection takes place within the block, in particular by reflection at interfaces.

4. (Currently Amended) Laser system according to ~~any of the preceding Claims~~ claim 1, characterized in that wherein the pulse stretcher (8a, 8b) has a Gires-Tournois interferometer or a dispersive layer structure, preferably as a folding mirror.

5. (Currently Amended) Laser system according to Claim 4, characterized in that wherein the pulse stretcher (8a, 8b) has at least two reflecting surfaces, the surfaces being arranged in such a way that the surfaces are oriented

- relative to one another and
- at an opening angle, in particular adjustable opening angle,

and the laser beam is reflected at least twice at at least one of the surfaces.

6. (Currently Amended) Laser system according to ~~any of the preceding Claims~~ claim 1, characterized in that wherein the laser medium (6) has an inversion life time greater than 1 ms and is in particular Yb:glass or Yb:crystal.

7. (Currently Amended) Laser system according to ~~any of the preceding Claims~~ claim 1, characterized by a femtosecond oscillator (13) for inputting seed pulses, the femtosecond oscillator (13) being formed and arranged in such a way that the seed pulses are femtosecond pulses or picosecond pulses on input into the laser resonator.

8. (Currently Amended) Laser system according to ~~any of the preceding Claims~~ claim 1, characterized by an electro-optical switching element as modulator (3).

9. (Currently Amended) Laser system according to ~~any of the preceding Claims~~ claim 1, characterized by a pulse compressor outside the laser resonator, in particular according to the Treacy design.
10. (Currently Amended) Laser system according to Claim 9, ~~characterized in that~~ wherein the pulse compressor has a dispersive grating having less than 1700 lines/mm, preferably less than 1200 lines/mm.